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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,554

06/28/2005

Gerhard Volkel

VOLKEL

4689

20151 7590 04/06/2007
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EXAMINER

STEPHENSON, DANIEL P

ART UNIT

PAPER NUMBER

3672

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/537,554	Applicant(s) VOLKEL ET AL.	
	Examiner Daniel P. Stephenson	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-9 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 and 07 November 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/25/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because fig.1 and 2 are not proper for reproduction in black and white. The reference numerals present along with detail of the picture are rendered indistinguishable from each other upon reproduction/scanning. Please supply a picture that is able to be reproduced/scanned with detail intact. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means"

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and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it is not in narrative form, and it should contain multiple descriptive sentences. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 9 is objected to because of the following informalities: It is unclear if this claim is dependent, and if so, which claim it is dependent from since it lists two separate (1,6) independent claims within it. If this claim is independent of the other claims then it should list the limitations of each of the claims listed in full form. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 5-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Parish (US 4,422,800) in view of McGillis (US 6,682,264). Parrish discloses a drilling method for creating an underground channel to a shaft. The method has the following steps:

-drilling a channel through soil from a starting pit in the direction of the shaft using a first drill head (21)

-drilling through the shaft in this direction with the first drill head creating a breach

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- changing from the first drill head to a second drill head (24) or drill arrangement in the shaft

- widening the breach by drilling in the opposite direction with the second drill head

- lining the breach with a pipe (28)

The drill rod is forced into the soil by a drill slide (16), which also pulls the second bit in the other direction. The second bit is a coring bit with the design to widen the breach.

Parrish does not disclose that there is a wall in the shaft, which the drill goes through. McGillis discloses drilling between two shafts where each of the shafts has been lined. It would have been obvious to one of ordinary skill in the art at the time the invention was made to line the shafts of Parrish as shown in McGillis. This would be done to allow for deeper shafts while still meeting safety requirements.

With regards to claim 7, it is Officially Noticed that it is notoriously conventional in the horizontal drilling art to use a coring reamer with multiple bits. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reamer of Parrish made from multiple bits. This would be done to provide a smooth hole for the installation of the piping.

7. Claims 1 and 6-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Atkins et al. (US 3,469,638) in view of McGillis. Atkins et al. discloses a drilling method for creating an underground channel to a shaft. The method has the following steps:

- drilling a channel through soil from a starting pit in the direction of the shaft using a first drill head (24)

- drilling through the shaft in this direction with the first drill head creating a breach

-changing from the first drill head to a second drill head (30) or drill arrangement in the shaft

-widening the breach by drilling in the opposite direction with the second drill head
The drill rod is forced into the soil by a drill slide (23), which also pulls the second bit in the other direction. The second bit is a coring bit with the design to widen the breach.

Atkins et al. does not disclose that there is a wall in the shaft, which the drill goes through. McGillis discloses drilling between two shafts where each of the shafts has been lined. It would have been obvious to one of ordinary skill in the art at the time the invention was made to line the shafts of Atkins et al. as shown in McGillis. This would be done to allow for deeper shafts while still meeting safety requirements.

With regards to claim 7, it is Officially Noticed that it is notoriously conventional in the horizontal drilling art to use a coring reamer with multiple bits. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reamer of Atkins et al. made from multiple bits. This would be done to provide a smooth hole for the installation of the piping.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parrish or Atkins et al. in view of McGillis as applied to claim 1 above, and further in view of the pre-grant publication to Mercer (US 2003/0076106). Parrish or Atkins et al. in view of McGillis shows all the limitations of the claimed invention, except, they do not disclose that the first bit has a transmitter to provide a signal to a receiver for controlling the bit. Mercer discloses having a transmitter in a drill head for drilling horizontally. In addition, there is a receiver at the surface for helping to control the direction of the bit as it is drilling. It would have been obvious to one

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of ordinary skill in the art at the time the invention was made to use the transmitter/receiver of Mercer with the apparatus of Parrish or Atkins et al. in view of McGillis. This would be done to give greater control over the direction of the drilling, as taught in Mercer.

Allowable Subject Matter

9. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

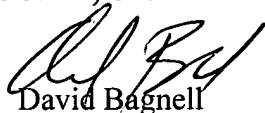
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Solomon et al., Clelland, Crane et al., Lambert, McKenny and McDonald et al. all show similar features to those of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P. Stephenson whose telephone number is (571) 272-7035. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David Bagnell
Supervisory Patent Examiner
Art Unit 3672

DPS *ggh*